

clusion from his observations on the exuviation of *Caenis simulans* in Michigan. The males of *Ephoron album* usually fly from their resting place as soon as the wings are free and the cast exuvium is carried into the air where it may continue to cling to the cerci for a minute or two. Thus it is often that one sees the cast skin dropped from the insect in flight. Although I have not observed this in *Caenis simulans*, Lyman (1955: loc. cit.) has reported it, and I have seen the exuvia on the surface of a pond where they were dropped by the flying insects. I am unable to comment on the subimaginal exuviation of *Tortopus* and *Tricorythodes*, but additional observations on these two genera are desirable to determine with greater certainty the method of exuviation of the subimago.

Some New Species of Bathypogon (Diptera: Asilidae)

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The flies of the genus *Bathypogon* Loew are characteristic members of the dipterous fauna of southern South America and especially of Australia. The following new species are described from material collected by the author in Australia in 1953-54.

Bathypogon rubellus n. sp.

Medium sized species characterized by the black bristles of upper occiput, front and vertex. The face is orange yellow, with pale bristles and yellow pubescence. The first two antennal segments and the base of the third segment are yellowish. Mesonotum dark, with the humeri and a wide lateral stripe orange brown. Thoracic and leg bristles black. Last four tergites of male brownish orange. Length 14-16 mm.

Male. *Head*: vertex and front black with orange brown pollen, its bristles and those of the upper third of the occiput black. The post vertical cluster is composed of seven bristles. Upper occipital pollen orange brown. Face light orange in

ground color, with yellow pubescence. The medial area of the face on the lower three-fourths is raised and set with stout, pale brown bristles. Enclosed sublaterally by a vertical row of more slender, brownish white bristles. The palpi and proboscis are black, the former with brownish bristles, the latter with white pile. Pile of the lower occiput white. The first two antennal segments are pale brownish orange, the first narrowly tipped with rust color. The third segment is comparatively short and swollen and brown with the base lighter.

Thorax: mesonotum black in ground color, except upon the humeri and the wide lateral margins, which are a light orange brown and overlaid with pale brownish yellow pollen. The pollen over the dark central area is a dark reddish to orange brown. The postcalli and a band in front of the scutellum are orange brown in ground color; this band is extended forward on either side as a narrow wedge covering the post dorsocentral bristles. The thoracic complement of bristles consists of: one posthumeral, two notopleurals, one supra-alar, two postcalli, two pairs of scutellars and five or six quite long, post dorso-centrals. Pleura chiefly brownish black with the lower propleura, the upper sternopleura, the pteropleura and post mesopleura and the metapleura orange brown in ground color, but the whole area thickly overlaid with deep brownish yellow pollen.

Legs: the femora are almost entirely black; the anterior pair have a small, short, reddish brown streak posteriorly at the apex and another at the base. The middle femora have a posterior and the hind femora have a medial streak of the same color, both quite narrow, indistinct but nearly complete. The tibiae and tarsi are comparatively light in color and are orange brown; the anterior tibiae are obscurely darker anteriorly, except at the base. The middle tibiae are similar and with the apex quite narrowly and diffusely blackish. Hind tibiae black laterally but dark reddish brown elsewhere. Claws brownish at base. Pile of legs brownish white; all bristles black.

Wings: distinctly tinged with pale brown, the apex darker and villose. All veins including the costa vein quite dark brown. Lower end vein of the discal cell two and a half times as long

as the upper vein (discal cross vein) and not quite aligned with the lower end vein of the fourth posterior cell.

Abdomen: first four tergites black; first three narrowly reddish on the lateral margins; fifth to eighth tergites brownish orange or red, and slightly darker posteriorly. The whole terminalia are brownish orange. Ventral plate without processes. Pile of the abdomen pale; bristles weak and also pale.

Female. Similar to the male. The tarsi and tibiae, while usually of the same color as the male, occasionally are darker; the narrow, obscure reddish streaks on the femora are usually absent, leaving these totally black. Hind tibiae usually entirely black. Abdomen everywhere quite black. The basal corner of the first and second tergite sometimes a little reddish. Abdominal pile white, the pollen brown dorsally, but quite thin, and viewed from above, it appears to be absent, except on the sides of the first four tergites, where it is greyish white. In an oblique light the first four tergites have thin brownish pollen.

Type male, and *allotype* female: 37 miles southeast of Perth, Brookton Highway, WEST AUSTRALIA, 6, 1, 1954, F. M. Hull collector. *Paratypes*: with the same data, 8 males and 9 females.

Bathypogon uncinatus n. sp.

A medium sized species. All the bristles of the head white except for two or three dark brown bristles on and opposite the ocellarium. Mesonotal bristles varying from yellowish brown to dark brown with the post dorsocentrals partly brownish black. Scutellars pale brownish yellow. Bristles of legs pale. First two antennal segments black, the third black except at base. Entire mesonotum black except the postcalli and humeri. Immediately characterized by the long, posteriorly protuberant, apically attenuate processes of the superior forceps. Ventral plate with hood-like processes. Length 15 mm.

Male. *Head*: black everywhere in ground color. The pollen of the occiput is greyish white; of the vertex, and of the front, except laterally, dark golden brown. Lateral, front and facial pollen pale greyish yellow, nearly white. Bristles of face brownish white. Palpal bristles white. Proboscis with an

unusually high dorsal ridge or keel. Antennae black, with the apex of the second segment and the narrow base of the third, obscurely brown.

Thorax: mesonotum black, including the whole lateral margin, except the humeri, which are chiefly reddish brown and become black anteriorly. There is an obscure, small, reddish brown spot ventrally on the postcalli which encloses the last bristle of the post dorsocentral row. The pollen of the mesonotum is rather light brown; viewed anteriorly there are two well defined black vittae, rather widely separated; viewed dorsally they are less widely separated. Pollen on the posterior part of the mesonotum and on a large presutural spot much darker and more reddish. Pleura entirely black, with pale greyish yellow pollen, except that on the mesopleura there is a large spot of reddish brown pollen.

Legs: the femora entirely black, hind tibiae and tarsi black, the anterior and middle tibiae very dark brown with the base obscurely reddish brown. The tarsi dorsally are also extremely dark brown. Pile of legs pale brownish yellow, with all of the bristles similarly colored. Claws reddish brown at the base.

Wings: tinged with pale brown. Lower end vein of the discal cell nearly three times as long as the upper vein (discal cross vein) and forming a low angle with the end vein of the fourth posterior cell. Veins quite dark brown, only the pre-humeral veins orange brown.

Abdomen: black, the lateral margins widely greyish white pollinose and all bristles pale. Terminalia black, elongate, the superior forceps with a long and apically attenuate process and the ventral plate with a pair of flat processes which are triangular when viewed from the rear, but thin and sharply pointed when viewed from the side.

Female. The female is quite similar to the male. As in the male, the pleura are black with thick overlay of greyish white pollen and a large reddish brown spot of pollen on the mesopleura. The principal difference lies in the tibiae, where the basal third is quite pale and rather yellowish and conspicuously, though diffusely, in contrast to the remainder of the tibiae.

Type male, and *allotype* female: 37 miles southeast of Perth, Brookton Highway, WEST AUSTRALIA, 6, 1, 1954, F. M. Hull, collector.

***Bathypogon robustus* n. sp.**

A large species. Related to *asiliformis* Loew but without sharp needle-like processes on the terminalia. Characterized by the black antennae, the pale bristles of the face, with the face tending to be reddish ventrally. The mesonotum is everywhere black in ground color, except the humeri, which are reddish. Pleura widely reddish in ground color on the posterior part. All femora with complete black dorsal and anterior black stripes, but otherwise light reddish in color. Length 20–23 mm.

Male. Head: front and vertex and the upper half or more of the face and the cheeks black in ground color. Face ventrally more or less reddish. Proboscis and palpi black. The antennae are black. The base of the first segment ventrally and laterally is reddish, the apex of the second, and the base of the third segment dark brown laterally. All bristles and pile of head and antennae are quite pale brownish yellow. The middle of the face has numerous, long, moderately stout bristles extending over the lower five-sixths of face. The face is gently elevated shortly below the antennae.

Thorax: mesonotum black in ground color. Viewed from above, the pollen is dark olive brown, with an indistinct pair of narrowly separated darker vittae. Lateral pollen of mesonotum including that of the humeri light brownish yellow and similar pollen continued over the pleura. The propleura, sternopleura, lower metapleura and the anterior mesopleura are nearly black in ground color, the remainder light reddish brown. The complement of mesonotal bristles, all of which are long and stout, consists of one posthumeral, two or rarely three notopleurals; one supra-alar, two or rarely three postcalli, and two pairs of scutellars.

Legs: femora light brownish red posteriorly on the first four, and medially on the hind pair; the remainder are uniformly

black from base to apex. The anterior tibiae are light reddish, except narrowly at the apex, which is brownish black; the black color extends medially to the middle of the tibiae. Middle tibiae reddish with only the apex dark brown. Hind tibiae reddish with the lateral surface blackish from middle to apex. All tarsi brownish black dorsally. Pile and bristles of legs quite pale brownish yellow, the middle of the ventral surfaces of the tarsi with some dark brown bristles and also some golden setae. Claws light brown at base and comparatively blunt, without being obtuse.

Wings: nearly hyaline, with a reddish brown tint imparted chiefly marginally and distally. Lower end vein of discal cell and fourth posterior cell aligned.

Abdomen: brownish black in ground color, changing to reddish brown laterally and likewise along the lateral posterior margin, and more narrowly along the basal margins of the segments. The pollen is light brownish yellow, except in an oblique light. Viewed directly above, the tergites have a dark brown appearance with interrupted, posterior, yellow, pollinose margin. Superior forceps black, the posteroventral margin, the apex, the dorsal margin and the medial basal area of the ventral plate diffusely dark reddish brown. These terminalia are without conspicuous protruding processes of any kind.

Type male, and *allotype* female (in copula): Canberra, A. C. T., 20-30, XI, 1953, F. M. Hull collector. *Paratypes*: 43 males and 53 females, all collected at Canberra from November 20 to December 10, 1953.